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GROUP ART UNIT: 3752

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Transmitted here with regarding Attorney docket no. 44500, Application Serial No. 09/593,360,  
Filed 6/14/2000, are the following:

- Transmittal Form
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<p>Applicant(s): Crabtree, et al.</p> <p>Application No.: 09/593,360</p> <p>Filed: 6/14/2000</p> <p>Title: (Ranger CIP) System for Automatic Self-Proportioning of Foam Concentrate into Fire Fighting Fluid Variable Flow Conduit</p> <p>Attorney Docket No.: 44500</p>	<p>Art Unit: 3752</p> <p>Examiner: C. Kim</p>	<p align="center"><b>RECEIVED</b> <b>CENTRAL FAX CENTER</b></p> <p align="center">APR 13 2004</p> <p align="center"><b>OFFICIAL</b></p>
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RESPONSE TO NOTICE OF DEFECTIVE APPEAL BRIEF


Dear Sir:

In response to the Notification of Non-Compliance of April 5, 2004, please amend the appeal brief as follows:

In the status of the claims section, please amend to note that claim 40 has been considered to be cancelled, and treated as cancelled. The cancellation was considered to have occurred by virtue of not being listed in the pending Substitute Claims submitted in the RCE filed 11/15/02. The limitation of claim 40 was incorporated into claim 39. However, attached hereto is a new appendix of claims including claim 40. Applicant will request canceling claim 40 as soon as appropriate.

Respectfully Submitted,

4/13/04  
Date

  
\_\_\_\_\_  
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Appendix A  
Claims on Appeal

12. A method for proportioning a fire fighting chemical into variably flowing fire fighting fluid, comprising:

adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies;

varying a fire fighting foam concentrate orifice in concert with the adjustment of the fire fighting fluid orifice; and

supplying fire fighting foam concentrate through the concentrate orifice into the fire fighting fluid proximate a pressure drop such that a ratio of the foam concentrate proportioned into the fire fighting fluid flowing through the conduit, to the fluid, remains approximately constant.

13. The method of claim 14 wherein varying a fire fighting fluid orifice includes adjusting a lateral movement of a baffle within the conduit

14. A method for automatically proportioning foam into variably flowing fire fighting fluid, comprising:

varying a fire fighting fluid orifice in a conduit to maintain a preselected pressure drop in the conduit and wherein the varying fire fighting fluid orifice acts as a fire fighting fluid flow rate indicator;

varying a foam concentrate orifice, at a rate calibrated in concert with variations of the fire fighting fluid orifice; and

discharging foam concentrate through the variable foam concentrate orifice proximate a low pressure zone created by a pressure drop at an approximately constant ratio to the fluid.

15. The method of claim 14 that includes varying the fire fighting fluid orifice based upon a spring resisting fire fighting fluid pressure in the conduit.

16. The method of claim 14 wherein varying the fire fighting fluid orifice includes setting a pilot valve to maintain a fixed pressure drop across the orifice from among a range of preselectable fixed pressure drops.

17. The method of claim 16 wherein the pilot valve is biased by spring.

18. The method of claim 14 wherein varying a fire fighting fluid orifice includes adjusting a lateral movement of a piston within the conduit.

20. A method comprising:

automatically adjusting a fire fighting nozzle to control discharge pressure;

self-educting fire fighting foam concentrate into the nozzle using a portion of a fire fighting fluid flowing at at least 500 gpm through the nozzle; and

automatically varying a foam proportioning orifice in order to meter foam concentrate self-ducted into the nozzle in accordance with fire fighting fluid flow rate through the nozzle

39. Method for proportioning foam concentrate into a variable flow fire fighting fluid conduit, comprising:

placing pressurized foam concentrate in communication with pressurized fire fighting fluid variably flowing through a conduit;

arranging a pilot valve sensitive to flow rate of the fire fighting fluid in the conduit;

adapting the pilot valve to adjust a flow rate of foam concentrate into the fire fighting fluid such that the foam concentrate is proportionally metered into the variably flowing fire fighting fluid;

adapting the pilot valve to vary an obstruction to flow of fire fighting fluid in the conduit; and

varying the obstruction by the pilot valve to maintain a fixed pressure drop in the fire fighting fluid conduit.

40. The method of claim 39 that includes adapting the pilot valve to vary an obstruction to flow of fire fighting fluid in the conduit.

41. The method of claim 39 that includes measuring pressure drop around the obstruction.

42. A method comprising:

automatically adjusting an obstruction in a fire fighting fluid conduit flowing at least 500 gpm to maintain a preselected pressure drop;

arranging a pilot valve sensitive to fire fighting fluid flow rate in the conduit; and

proportionally metering, using the pilot valve, a foam concentrate into the conduit proximate the pressure drop.

43. The method of claim 39 that includes adjusting a flow rate of foam concentrate by adjusting an orifice in a foam concentrate flow conduit.